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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/721,638	11/27/2000	Takayuki Takemoto	D-1026	3831

7590 07/15/2004

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EXAMINER
CZEKAJ, DAVID J

ART UNIT	PAPER NUMBER
2613	5

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/721,638	TAKEMOTO, TAKAYUKI	
	Examiner	Art Unit	
	Dave Czekaj	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *4-30-04*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4 and 6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4 and 6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 November 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamada et al. (6163029), (hereinafter referred to as "Yamada") in view of Hallock (4531154) in further view of Plut et al. (5058148), (hereinafter referred to as "Plut").

Regarding claims 1-2, Yamada discloses an apparatus for improving fluoroscopy image quality and reducing signal noise (Yamada: column 1, lines 7-11). This apparatus comprises a "two-dimensional radiation sensor array formed of photoelectric conversion elements for outputting charge signals corresponding to an amount of radiation" (Yamada: figures 1 and 8, column 8, lines 29-32, wherein the two-dimensional matrix is the matrix of 1000x1000 elements), "switches arranged in a matrix form under the radiation sensory arrays and connected to the photoelectric conversion elements" (Yamada: column 8, lines 32-34, wherein the switches are the TFT's which are arranged under each of the photoelectric conversion elements, thus putting them in a matrix form), "a gate

driver circuit connected to the switches for turning on the respective switches in case of readout out the signals" (Yamada: column 8, lines 34-35, figure 8, item 45), and "a readout amplifying circuit connected to the sensor arrays for readout of the charge signals" (Yamada: figure 8, item 47, wherein the readout amplifying circuit is the initial stage integration amplifiers). Although not shown, it would have been obvious to implement a pixel control circuit connected to the gate driver and amplifying circuit for controlling them to join pixels as one pixel unit as seen in Huang (Official Notice). Doing so would have been obvious in order to make the fluoroscopy image apparatus more power efficient by being able to control and select individual sensors. However, this apparatus lacks the TV reference signal circuit, picture signal superimposing circuit, and digital to analog switching circuit as claimed. Hallock teaches that horizontal and vertical sync inputs are needed to correctly display a video image (Hallock: column 3, lines 55-61). Hallock discloses an apparatus that superimposes a graphic over video using a "superimposing circuit" (Hallock: figure 1, item 150, wherein the superimposing circuit is the video display processor) and a "TV reference signal circuit" (Hallock: figure 1, wherein the TV reference circuit is comprised of items 110, 120, and 140 which generates horizontal and vertical syncs). Plut teaches that prior art radiation imaging systems can be switched between analog and digital modes (Plut: column 2, lines 19-45). Accordingly, Plut integrated in Plut's system a "digital to analog switching circuit for switching between a digital video control and analog video control" (Plut: figures 4-5, column 10, lines 40-60,

wherein the digital to analog switching circuit comprises the DAS, serial card, and verification card). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to take the apparatus disclosed by Yamada, add the TV reference and superimposing circuits taught by Hallock, and add the digital to analog circuit taught by Plut in order to obtain an apparatus that correctly displays video data on a display.

Regarding claim 3, Hallock discloses that the "pixel control circuit is operated in analogue video control" (Hallock: figure 1, wherein the pixel circuit is comprised of items 110, 120, and 140).

Regarding claim 4, although not shown, it would have been obvious to included wireless transmitting means for transmitting the signal as seen in MeEvoy et al. (Official Notice). Doing so would have been obvious in order to make the apparatus more mobile.

Regarding claim 6, Yamada in view of Hallock in view of Plut disclose a "correction processing circuit connected to the amplifier so that sensitivity and offset correction are carried out and image processing circuit connected to the correction processing circuit to output a digital signal" (Yamada: figure 11, items 89 and 91, wherein the sensitivity is corrected by the gain circuit, Plut: figures 4-5, wherein the image processing circuit is the DAS, verification and serial cards which control the switching between the analog and digital modes).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dave Czekaj whose telephone number is (703) 305-3418. The examiner can normally be reached on Monday - Friday 9 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chris Kelley can be reached on (703) 305-4856. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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